

# STEEL FOUNDERS' SOCIETY OF AMERICA

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## Integrity and Specifying Steel Castings

A company producing valves and fittings for critical high pressure service purchased a series of castings for one of their product lines. These castings were required to meet the ASME Boiler and Pressure Vessel Code including the requirements for qualified weld procedures and welders in section 9 of the Code. To ensure that welds did not compromise the product and to meet the ASME requirements, the company imposed ASTM A703 S. 20- Weld Repair Charts. The company was sensitive to this issue and also required S. 12- Prior Approval of Major Weld Repairs.

The castings when received were processed in the standard way until one casting showed a problem in machining. On examination, the problem was a weld made on the casting. The weld was through the pressure retaining wall, so it was major, but was not shown on a weld repair chart and was not granted prior approval. Other castings also had undocumented welds. Further examination revealed that the welds were made with the incorrect filler metal.

In response, the company changed its requirements for purchasing their castings to forbid the use of welding on their products.

This is not a solution. It makes the castings more expensive and worse; will not prevent future problems in casting quality or performance.

Why will this tightening of the specification not prevent future non-compliant welds? They were already forbidden. The problem was not the result of an inadequate specification but a lack of integrity in the supplier. They falsely certified compliance to the customer's requirements at delivery. If a supplier lacks the integrity to truthfully achieve and certify compliance, no specification will prevent future non-compliance.

We are privileged in North America to have a legacy and culture of integrity in our business relations, expecting compliance with all the requirement of the purchase agreement. We have a legal system that enforces the expectation. In traditional cultures and still in our normal dealings, we expect integrity. We expect suppliers to meet the product specifications. Sometimes suppliers fail but we expect when they fail to honestly report the failure and work out a reasonable and fair resolution.

Some regional suppliers and global suppliers fail to meet the expectation of integrity. In our personal lives hiring contractors for our homes, we want reviews and recommendations not only on the quality of work but also on the integrity of the contractor. We don't use contractors that lack integrity. We should not use suppliers that lack integrity. The solution to products that are truly defective, fail to meet the purchase requirements at delivery, is to drop the supplier from the list of qualified sources.

Tightening the specification to deal with fraudulent product is not the solution.

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